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PATENT APPLICATION NO: PI 2002 3517

This is to certify that annexed hereto is a true copy from the records of the Registry of Trade Marks and Patents, Malaysia of the application as originally filed which is identified therein.

By authority of the
REGISTRAR OF PATENTS

ABDUL RAHMAN RAMLI
(CERTIFYING OFFICER)
15 October 2003

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CERTIFICATE OF FILING

APPLICANT	:	TSANG SHING CHI
APPLICATION NO	:	PI 20023517
REQUEST RECEIVED ON	:	20/09/2002
FILING DATE	:	20/09/2002
AGENT'S/APPLICANT'S FILE REF.	:	PIP/0356/BT/00/LCH/YAN

Please find attached, a copy of the Request Form relating to the above application, with the filing date and application number marked thereon in accordance with Regulation 25(1).

Date : 03/10/2002

(ROZILEE BIN ASID)
for Registrar of Patents

To : LOK CHOON HONG
C/O PINTAS CONSULTING GROUP SDN BHD.,
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FF 09

Patents Form No. 1 PATENTS ACT 1983 REQUEST FOR GRANT OF PATENT [Regulations 7 (1)] To: The Registrar of Patents Patent Registration Office, Kuala Lumpur, Malaysia	For Official Use APPLICATION NO: PI 2003517 Application received on : 20-09-2002 Fee received on : 20-09-2002 Amount : RM200. * Cheque/Postal Order/Money Order/Draft/Cash No.: 12403 852894
Please submit this Form in duplicate together with the prescribed fee.	Applicant's or Agent's file reference **PIP/0356/BT/00/LCH/Yan**

THE APPLICANT (S) REQUEST (S) THE GRANT OF A PATENT IN RESPECT OF THE FOLLOWING PARTICULARS:

I. Title of Invention: **A MODULAR GARDEN BUILDING**

II. APPLICATION(S) (*the data concerning each applicant must appear in this box or, if the space is insufficient, in the space below*):

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.....

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.....

DITERIMA
SEP 2002
Unit Paten
Bahagian
Harta Intelek

Additional Information (if any)

III. INVENTOR(S):

Applicant is the inventor(s): Yes [X] No [ ]

Name of inventor	Address:
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	Citizen of Singpore

A statement justifying the applicant's right to the patent accompanies this Form:

Yes [ ] No [X]

Additional Information (if any)

IV. AGENT OR REPRESENTATIVE:

Applicant(s) has appointed a patent agent in accompanying Form No. 17

(will follow) Yes [X] No [ ]

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Unit Paten
Bahagian
Harta Intelek

Agent's Registration No: **PA/99/0077**
Applicants have appointed: **LOK CHOON HONG**
to be their common representative

V. DIVISIONAL APPLICATION:

This application is a divisional application ☐

The benefit of the filing date ☐ priority date ☐ of the initial application is claimed in as much as the subject-matter of the present application is contained in the initial application identified below:

Initial Application No.:.....

Date of filing of initial application:.....

VI. DISCLOSURES TO BE DISREGARDED FOR PRIOR ART PURPOSE:

Additional information is contained in supplemental box:

(a) Disclosure was due to acts of applicant or his predecessor in title ☐
Date of disclosure: .....

(b) Disclosure was due to abuse of rights of applicant or his predecessor in title ☐
Date of disclosure: .....

A statement specifying in more detail the facts concerning the disclosure accompanies this Form

Yes ☐

No [X]

Additional Information (if any)

VII. PRIORITY CLAIM (if any):

The priority of an earlier application is claimed as follows:

Country	Filing Date	Application No.
-	-	-

Symbol of the international Patent Classification: ☐
If not yet allocated, please tick

The priority of more than one earlier application is claimed: ☐

The certified copy of the earlier application (s) will furnished by the patent agent upon request ☐

Additional Information (if any)

VIII CHECK LIST

A. This application contains the following:

1. Request (Form 1)	4	sheets
description	7	sheets
claim	2	sheets
abstract	1	sheets
drawings	2	sheets
Total	**16**	sheets

This Form, as filed, is accompanied by the items checked below:

(a)	signed Form No. 17 (will follow)	X
(b)	declaration that inventor does not wish to be named in the patent	
(c)	statement justifying applicant's right to the patent	
(d)	statement that certain disclosures be disregarded	
(e)	priority document(certified copy of earlier application)	
(f)	cheque	X
(g)	other documents (specify)	

IX. SIGNATURE

.....

Name : **LOK CHOON HONG**
Agent's Registration No.: **PA/99/0077**

19/9/02

.....

Date

For Official Use

1. Date application received:.....
2. Date of receipt of correction, later filed papers or drawings completing the application :
.....

* **Delete whichever does not apply.**

** **Type name under signature. Pursuant to regulation 24, a declaration of withdrawal must be signed by the applicant (s) or by the agent so authorized for that specific purpose.**

A MODULAR GARDEN BUILDING

Field of Invention

This invention relates to a building structure referred to as a garden building, to be used in the compound of a house for various purposes.

Background of the Invention

The garden building is intended to be a small building structure outside of a house for various utility. It is meant to be available to the user in modular form for the ease of storage and transportation. It is intended that a user may buy the invention in its modular form and takes it home his or her own transport. Then he or she may conveniently set up the garden building in his or her own compound by him or herself, without the need of special tools. It conceived that houses having compounds or gardens yet without a garage might find such a garden building useful, i.e. for storage of gardening tools and related materials.

Generally these advantages in modularity, storage, transportation and setting up and intended usefulness are made available by the simplicity in the design of the invention as a whole. Specifically, the simple and yet practical joints or interconnections that are utilized, which will be exemplified later, enables the user to conveniently set up the garden building in his or her own compound by him or herself, without the need of special tools. The simplicity in design makes the invention cost effective for manufacturer also since it makes it easier to manufacture the invention.

In simple building structures such as this garden building or pet houses or any other similar small and simple building structures, joints have structural importance especially in ensuring that the entire structure is rigid and not shaky or swaying. Therefore, designers of various simple building structures that may also be small have come up with various designs of joints for their structures. GB 2240024 taught joints being inserts and slots. Specifically, the pet house exemplified therein uses H-shape slots and mating walls has H-shape inserts. Although such joints are structurally rigid by themselves, there is little room for tolerance in such a H-joint itself as there are a number of different complementing surfaces that comes into contact simultaneously. This is obvious from tracing the periphery of cross-section of such a joint.

WO0161127 uses panels to form the building itself. It however uses latches and clamps on profiles as means of joining different panels together. GB621389 is a hut that is significantly larger than the present invention. As such it needs to utilize a very rigid structure - metal framework with sole plates for resting on ground. Such rigid base and framework is not necessary for the present invention since it is much smaller and defeats the purposes of invention as briefly mentioned above. DE19920556 and EP1188872 are another two examples of such garden buildings, but they are larger and building them requires local builders; thus labour intensive.

In general, accuracy in manufacturing the joints is critical especially when there are more than two adjoining walls for any particular structure. It can be quite annoying to the user when different parts could not be properly joined together due to manufacturing inaccuracies. Although such inaccuracies can be kept to minimum due to present day manufacturing

technologies, it is still advantageous to keep a joint as simple as possible, since users may not be skillful enough to accurately join together more than two pieces of the building walls. At least, it will involves some trials and errors for some users during the assembly.

Thus it is preferable that joints are kept as simple as possible when without trading off the rigidity of the joint. It will be apparent later especially to persons skilled in the art, that in the present invention jointing problems due to inaccuracies can be kept to a minimum, making manufacturing much cost effective and also much easier for user to assemble. Although there are more complicated joints for different needs, the present invention however do not concern with these.

It is therefore the objective of the invention to be a utility structure in a garden or compound that can be easily set up by the user.

It is also the objective of the invention for its overall design to be simple for the ease of storage and transportation, and specifically for ease of setting up, while at the simultaneously maintaining stability and rigidity of the invention.

It is specifically the objective of the invention to achieve above-mentioned advantages by means of simple, regular parts that are joined together by means of simple joints; both parts and joints to be exemplified later.

Summary of the Invention

A modular garden house has sidewalls made up of regular wall panels. These load-bearing sidewalls are held together at their bottom surface and top surface by interconnections with a base frame and top frame respectively. The base frame is made up of ring beams joined together by bolts and nuts. The top frame is made up of two opposing side ring beams joined together by a pair of identical triangular frames. These interconnections are made by means of dowels inserted into hole sockets. Roof pieces are roof sheets built on frames. The roof pieces are supported by means of dowels on roof frames inserted into hole sockets on the triangular frames. The opening of the garden building is covered by removable door panels.

Brief Description of the Drawings

Figure 1 shows the complete assembly of the invention.

Figure 2 shows the top view of the base frame.

Figure 3 shows the interconnection of the wall panels with the base frame.

Figure 4 shows the assembly of the top frame on top of the wall panels, roof pieces and ridge capping.

Detailed Description of the Preferred Embodiment

In accordance to the preferred embodiment of the invention, a garden building (100) as shown in Fig. 1 is made up basically of the following elements: wall panels (300), door panels

(310), ring beams (200), triangular frames (410), roof pieces (400) and ridge capping (420).

A ring beam (201) is a rigid, strong and elongated flat beam. Four ring beams (201a, 201b, 201c, 201d) are joined together using bolts and nuts at each of their ends are used to form a rectangular base frame (105) (Fig. 2). The width and length of the garden building (100) is width and length of the rectangular base frame (105). Furthermore, the ring beams (201c) corresponding to the rear side and left (201a) and right side (201b) of the building (100) has holes (202) spaced at regular intervals for interconnection with wall panels (300) that will be explained later.

Regular vertical wall panels (300) form the sidewalls (101a, 102a, 103a) of the building on the rear side (103), left (101) and right side (102) of the building. Each wall panels (300) may be embodied as a frame as shown in Fig. 1 and 3. Each vertical wall panel (300) has at least two dowels (301a, 301b, 302a, 302b) located at each top (304) and bottom end surface (303) of the wall panels (300) for interconnection of wall panels (300) with base frame (105). The dowels (301a, 301b) at the bottom end surface (303) of any particular wall panel are located in such a manner that each wall panel (300) can be inserted into the predetermined holes (202) on the base ring beams (201a, 201b, 201c). Furthermore, the holes (202) on the base ring beams (201a, 201b, 201c) are distanced so that they not only receive any particular wall panel (300) but can also receive other similar wall panels (300) placed side by side to an already interconnected wall panel. Thus the rear side (103), left (101) and right sidewalls (102) are erected by this means of interconnections using dowels such as those of 301a, 301b, 302a, 302b.

These walls (101a, 102a, 103a) are further steadied by the following manner. Side ring beams (204a, 204b) that are similar to ring beams described beforehand (201a, 201b) are interconnected with left (101a) and right sidewalls (102a) at respective top ends (304). These side ring beams (204) holes (205) on them at predetermined locations so that they can be inserted into dowels (302a, 302b) on the top end of these sidewalls (101a, 102a, 103a); in similar manner the dowels (301a, 301b) inserted into the base frame

A triangular frame (410) is interconnected with the top (304) of the rear sidewall (103a) in similar manner of interconnection using dowels (302a, 302b) on the wall panels (300) with holes (hidden from view) located on the base end surface (411) of triangular frame (410); as in the case with other sidewalls (101a, 102a, 103a). This rear end triangular frame (410c) or referred to as first triangular frame is also joined to the side ring beams (204a, 204b) using bolts and nuts to form a top frame (106). At this juncture it is evident that this top frame (106) is isometric with the base frame (101). Another triangular frame (410d) similar to the first triangular is joined to the other end of the side ring beams (204a, 204b) at the front side of the garden building. These triangular frames (410c, 410d) have holes (412) predetermined at location on their inclined surfaces (411).

By now roof pieces (400), which are roof sheets (401) mounted on a frame can be supported on the triangular frames (410) by similar means of interconnections that uses dowel and hole sockets as described above. The roof pieces (400) has dowels (402) at predetermined locations to be inserted into the holes (412) on the inclined surface (411) of the triangular frames (410). After the installations of roof pieces (400) there

ridge capping (420) put over two peaks of the triangular frames (410) to complete the assembly.

Lastly, the door panels (310) are removable panels placed on the opening of the front side (104) of the garden building (100) to cover it. Seams in between one wall panel with other wall panels (300) and with the ring beams (200) are sealed with weather seals to prevent water leakage.

It is to be understood that the present invention may be embodied in other specific forms and is not limited to the sole embodiment described above. However modification and equivalents of the disclosed concepts such as those which readily occur to one skilled in the art are intended to be included within the scope of the claims which are appended thereto.

Claims

1) A garden building comprising of:
a base frame whereby said base frame consists of base ring beams that are connected together to form an enclosed frame of any polygonal shape;
a plurality of sidewalls compose of a plurality of wall panels with a plurality of dowels on both end of each said wall panel;
at least one door mounted one side of the building;
a top frame whereby said top frame having an enclosed polygonal shape that is isometry with said base frame with said top frame being made up of a pair of opposing side ring beams, said side ring beams are connected together by at least one pair of triangular frames at ends of said side ring beams; and
at least one pair of roof are supported on inclining sides of said triangular frames by means of frames built on each said roof.

2. The garden building as claimed in claim 1, wherein said base frame is rectangular where the length and width of said base frame corresponds to length and width of the garden building.

3. The garden building as claimed in any claim 1 to 2, wherein said base ring beams, said side ring beams and one of said triangular frame designated henceforth as first triangular frame, that are located at said sidewalls of the garden building have matching holes located thereon for said dowels to be inserted thereby forming said sidewalls by interconnection of said wall panels with said base ring beams, said side ring beams and first triangular frame mentioned herein.

4. The garden building as claimed in any claim 1 to 3, wherein said door compose of a plurality of door panels covering opening on said sidewalls, whereof said opening are sides of the garden building that has no said side panels.

5. The garden building as claimed in any claim 1 to 3, wherein any particular said ring beam that is referred to, particularly ring beams belonging whether to said base frame or said top frame, has its ends connected to ring beams next to it to form said base frame or said top frame.

6. The garden building as claimed in any claim 1 to 5, wherein said opening are on front side of the garden building.

7. The garden building as claimed in any claim 1 to 6, wherein beams between one said side panel with another said side panels; between said side panels and said ring beams and triangular frames are sealed with weather seals.

8. The garden building as claimed in any claim 1 to 7, wherein said frames of each roof have a plurality dowels which are inserted into holes on said inclining sides of triangular frames.

9. The garden building as claimed in any claim 1 to 8, wherein a ridge capping is placed on top of the peaks of said triangular frames.

Abstract

A Modular Garden Building

A modular garden building as described herein has regular wall panels that are placed next to one another and held together by a base frame to form the sidewalls of the garden building. The wall panels are interconnected with said base frame by means of dowels and hole sockets. The base frame is formed by ring beams that are joined together. The top of the sidewalls is also interconnected with side ring beams and triangular frames by similar means of dowels and hole sockets. The triangular frames and side ring beams are joined together to form a rectangular top frame that is isometric with the base frame. The opening of the garden building is covered by removable door panels. The roof pieces are held by its frames on the inclined surface of the triangular frames by means of dowels and hole sockets.

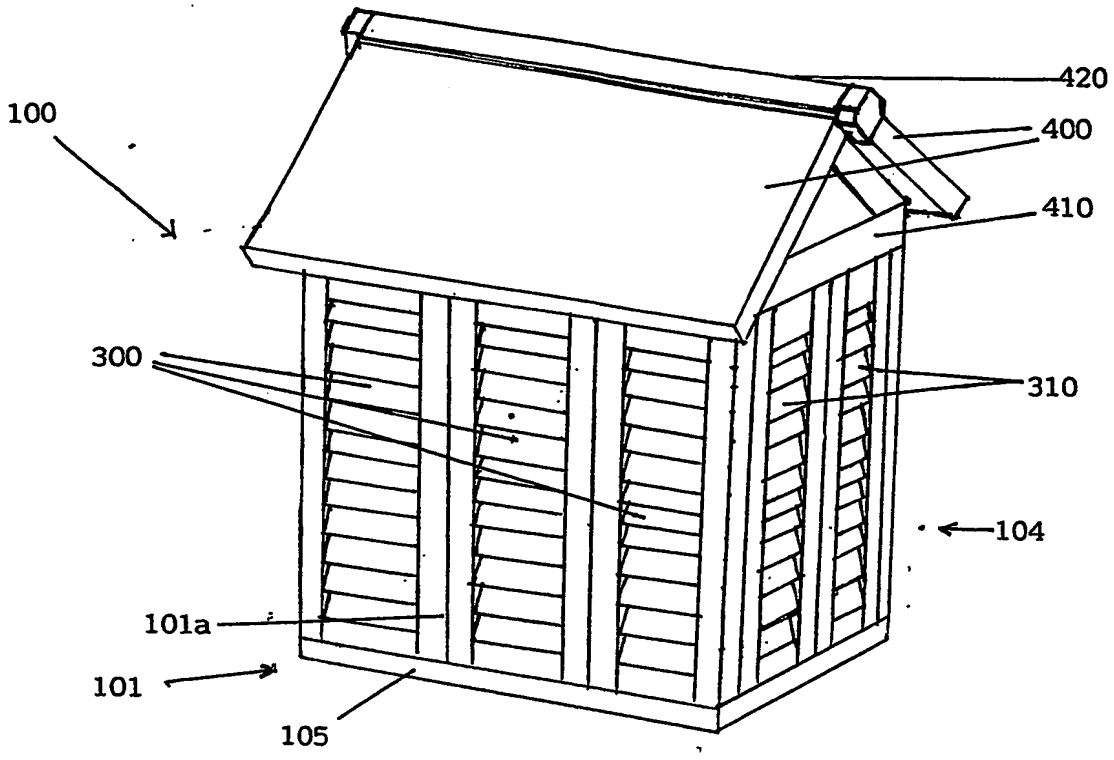
100
420
400
410
300
310
104
101a
101
105

FIG. 1

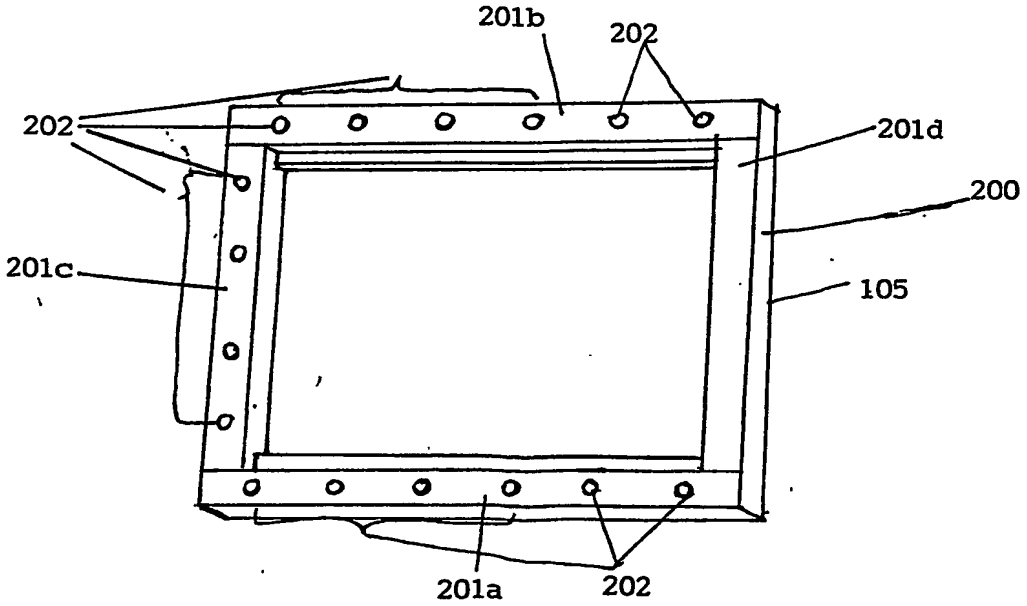
201b
202
202
201d
200
201c
105
201a
202

FIG. 2

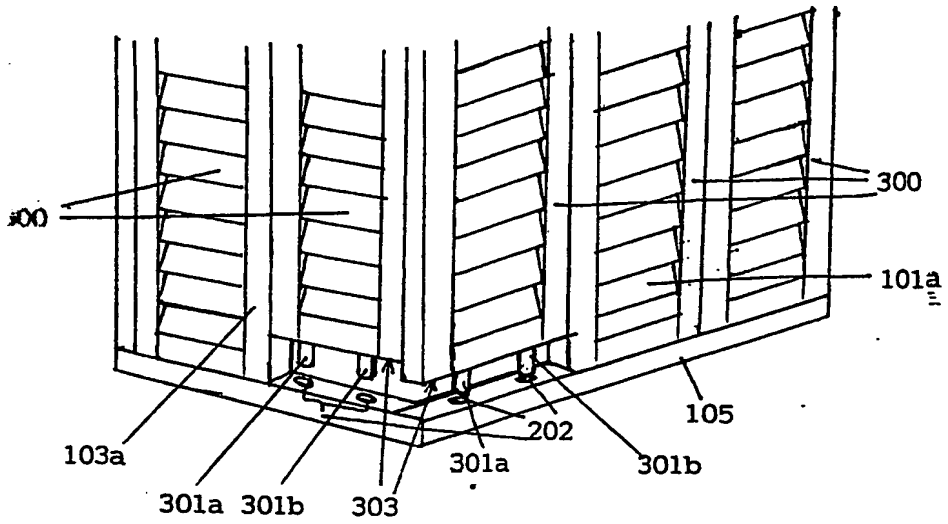
300
101a
105
202
103a
301a
301b
301a
301b
303

FIG. 3

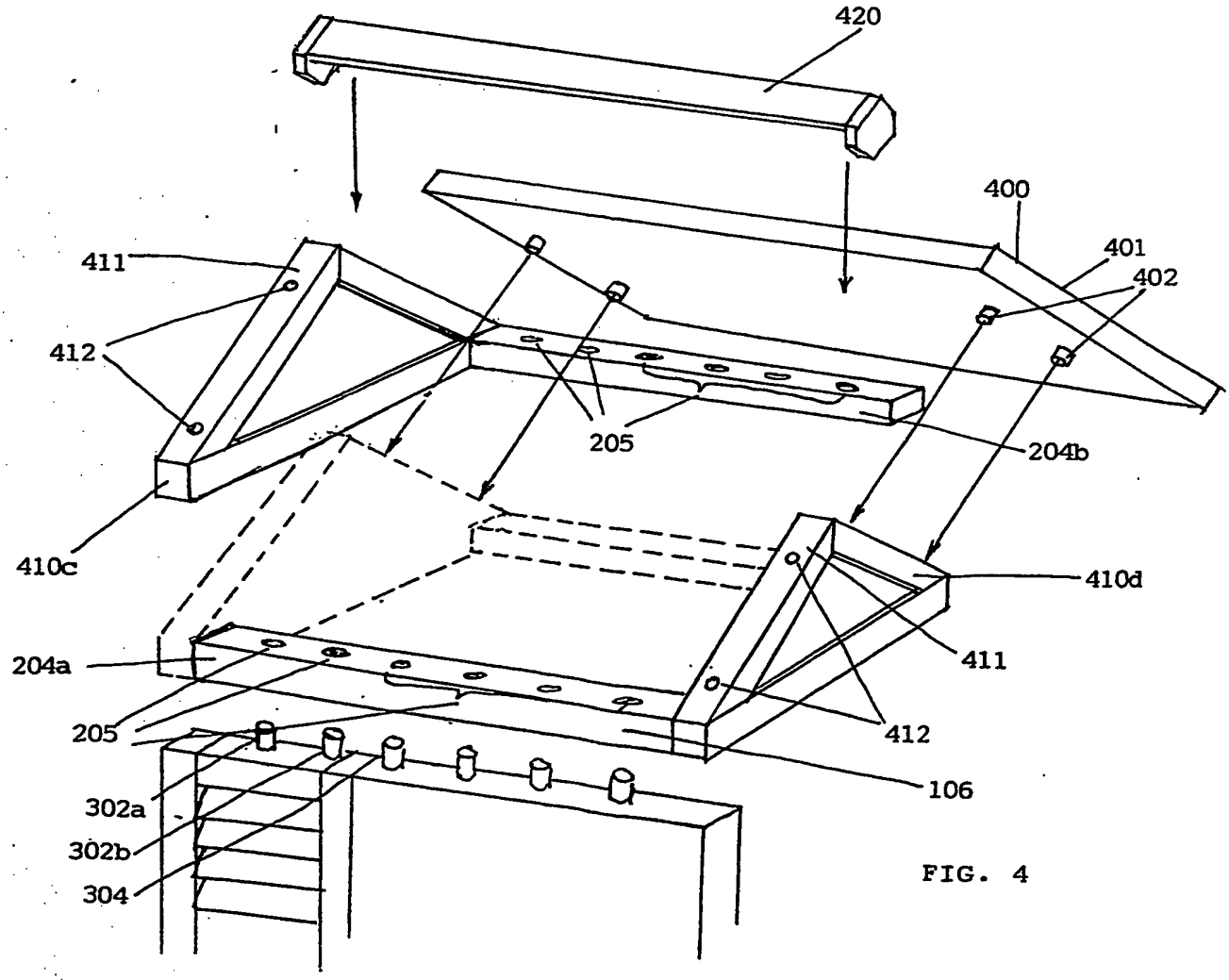
420
400
401
402
411
412
205
204b
410c
410d
411
204a
205
412
106
302a
302b
304

FIG. 4